AMENDMENTS TO THE CLAIMS

The below listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-20 (Canceled).

21. (Currently Amended) Cooling equipment for cooling a cooled material, said cooling equipment comprising:

a cooling space for receiving the cooled material;

an inner wall limiting the cooling space and being permeable to a cooling agent, said cooling agent passing into the cooling space through said inner wall ;

a removable plastic bell on the cooling space, said protective bell being at least partially transparent to permit a visible monitoring of the cooled material present in the cooling space;

a cold gas outlet located on a lower side of the protective bell and communicating with the cooling space for permitting cooling agent and cold gas to exit the cooling space;

an outer wall;

an intermediate space between the outer wall and the inner wall;

a porous buffer material arranged in the intermediate space; and

a cooling agent supply line communicating with and emptying into the intermediate space for introducing a cooling agent in liquid form into the porous buffer material of the intermediate space for subsequent transfer of the cooling agent into the cooling space through the inner wall, wherein no cooling agent lake forms on a bottom of the cooling space.

~~wherein: (a) the cooling agent supply line empties into the intermediate space between the inner wall and the outer wall and introduces the cooling agent in liquid form into the porous buffer material of the intermediate space, (b) the porous buffer material is adapted to temporarily receive the cooling agent and continuously transfer the cooling agent into the cooling space through the inner wall, (c) the inner wall is permeable for the cooling agent, and (d b) no cooling agent lake forms on a bottom of the cooling space.~~

Claims 22-23 (Canceled).

24. (Previously Presented) The cooling equipment according to Claim 21, wherein the inner wall is substantially grid-shaped.

25. (Previously Presented) The cooling equipment according to Claim 21, wherein the inner wall comprises a thermally conductive material.

26. (Previously Presented) The cooling equipment according to Claim 25, wherein the inner wall consists essentially of metal.

27. (Previously Presented) The cooling equipment according to Claim 21, wherein the cooling space is vat-shaped and an upper side of the cooling space has a circumferential edge.

28. (Previously Presented) The cooling equipment according to Claim 27, wherein the cooling agent supply line has a cooling agent distributor extending along the circumferential edge of the cooling space and the cooling agent distributor introduces into the intermediate space the cooling agent in a distributed manner over a length of the cooling agent distributor.

29. (Previously Presented) The cooling equipment according to Claim 21, wherein a heating element is arranged in the cooling space.

30. (Previously Presented) The cooling equipment according to Claim 29, wherein the heating element is arranged under a heating plate, the heating plate having several perforations that make a circulation of gas possible.

31. Canceled

32. Canceled

33. (Previously Presented) The cooling equipment according to Claim 31, wherein the protective bell has a sample lock.

34. Canceled

35. (Previously Presented) The cooling equipment according to Claim 21, wherein a cold gas outlet via which cooling agent and cold gas can escape from the cooling space is arranged on an upper side of the cooling space.

36. (Previously Presented) The cooling equipment according to Claim 21, further comprising:

a temperature sensor arranged in the cooling space for measuring a temperature in the cooling space;

a controllable cooling agent valve for adjusting an amount of cooling agent supplied; and

a temperature control device for regulating the temperature in the cooling space, the temperature control device being connected on an input side to the temperature sensor and on an output side to the cooling agent valve.

37. (Previously Presented) The cooling equipment according to Claim 36, wherein the temperature control device is connected via a pulse generator to the cooling agent valve, the pulse generator alternately opening and closing the cooling agent valve.

38. (Previously Presented) The cooling equipment according to Claim 36, wherein the temperature sensor is arranged in the cooling space so as to measure a temperature of a cryosample in the cooling space.

39. (Canceled).

40. (Previously Presented) The cooling equipment according to Claim 21, wherein the cooling agent is liquid nitrogen.

41. (Canceled).